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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,370	08/16/2001	Stephen M. Dawson	16409/93578-00	3595

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EXAMINER

HO, THOMAS Y

ART UNIT

PAPER NUMBER

3677

DATE MAILED: 04/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/931,370

Applicant(s)

DAWSON ET AL.

Examiner

Thomas Y Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dawson USPN5730447 in view of Murphy USPN5522601.

As to claim 1, Dawson discloses:

- A device for sealing a rotatable shaft 2 and a fixed housing 1.
- Said device comprising an annular stator 5 and an annular rotor 3.
- Said stator having a seal means 25 for forming a seal with said housing.
- Said rotor having a seal means 9 for forming a seal with said shaft.
- Said rotor and said stator each having contact faces.
- At least one magnet 14 urging said contact faces together to form a seal when said stator and said rotor contact faces are in contact.

Dawson fails to disclose or suggest:

- Said device having a means to mechanically couple said rotor to said stator. The limitation “so that...axial movement” is functional language and holds no patentable weight. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA1959). “[A]pparatus claims cover what a device *is*, not what a

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device does.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528, (Fed. Cir. 1990).

Murphy discloses a means to mechanically couple a stator 26 and a rotor 24 so that the rotor moves axially independently of said stator for a predetermined range and once said predetermined range is exceeded, said rotor axial movement is coupled to said stator axial movement (col.5, ln.17-35) to maintain the desired separation of a rotor and a stator of the seal during operation (col.2, ln.1-6, ln.15-22). The stator and rotor of Murphy are separate until the rotor is slid along the shaft and brought into engagement with the stator, wherein a groove and a rim form an interlocking fit (the figures show the stator and rotor when already joined). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the stator and rotor disclosed by Dawson to be mechanically coupled, as taught by Murphy, to maintaining the desired separation of a rotor and a stator of a seal during operation.

As to claim 2, Dawson discloses:

- A device for sealing as recited in claim 1 above.

Murphy discloses:

- A means to mechanically couple said stator and said rotor to allow said rotor to axially slide along said shaft.

As to claim 3, Murphy discloses:

- Said means to mechanically couple includes an interlocking flange 94 and annular groove 56.
- Said flange 94 positioned on one of said rotor or said stator.

Said annular groove 56 positioned on the other of said rotor or said stator.

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As to claim 4, Murphy discloses:

- Said annular groove 56 is positioned on said stator and said flange 94 is positioned on said rotor (col.2, ln.50-67; col.3, ln.1-5).

As to claim 5, Murphy discloses:

- Said annular groove 56 is positioned on said rotor and said flange 94 is positioned on said stator (col.2, ln.50-67; col.3, ln.1-5). Furthermore, this is a simple reversal of components. The reversal of components in a prior art reference, where there is no disclosed significance to such reversal, is a design consideration within the skill of the art. In re Gazda, 219 F.2d 449, 104 USPQ 400 (CCPA 1955); In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

As to claim 6, Dawson discloses:

- A device for sealing as recited in claim 1 above.

Murphy discloses:

- Said rotor 24 being constructed substantially of a semi-flexible heat-resistant material (col.5, ln.16-20).

As to claim 7, Dawson discloses:

- A device for sealing as recited in claim 1 above.

Murphy discloses:

- A means to mechanically couple as detailed in claim 1 above.
- Said means to mechanically couple said stator 26 and said rotor 24 forming a labyrinth between said stator and said rotor (col.6, ln.1-4).

As to claim 9, Dawson discloses:

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- A device for sealing as detailed in claim 1 above.

Murphy discloses:

- Said device having an annular groove 56 positioned on one of said stator 26 and said rotor 24, and a flange 94 positioned on the other of said stator or said rotor.
- Said annular groove and said flange co-operating to mechanically couple said rotor to said stator. The limitation “so that...axial movement” is functional language and holds no patentable weight. Regardless, Murphy does disclose that said rotor moves axially independently of said stator for a predetermined range and once said predetermined range is exceeded, said rotor axial movement is coupled to said stator axial movement (col.5, ln.17-35).

As to claim 10, Dawson discloses:

- Having a plurality of magnets 14.

As to claim 11, Murphy discloses:

- Said flange and said annular groove have substantially complementary cross-sectional profiles.

As to claim 12, Dawson discloses:

- Said rotor 3 slides along said shaft 2 (col.3, ln.61-65). This limitation and the limitation “to accommodate...said rotor” is functional language and holds no patentable weight.

As to claim 13, Dawson discloses:

- A device for sealing as detailed in claim 1 above.

Murphy discloses:

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- A means to mechanically couple as detailed in claim 1 above.

As to claim 14, Dawson discloses:

- A predetermined distance between said stator 5 and said rotor 3. Dawson discloses that the distance indicated by 28 is 0.005 in. (col.5, ln.1-5), and simple visual comparison of 28 to the distance between 5 and 3 in Fig.1 indicates that the range is about 0.01 inches.

Murphy discloses:

- Said predetermined distance is about 0.01 inches. It should be noted that the “predetermined range” limitation in claim 1 from which claim 14 depends is functional language and holds no patentable weight. Furthermore, Murphy discloses that for a predetermined range, the stator and rotor are independent, but when the predetermined range is exceeded (and the stator and rotor connections overlap), the lip falls into the groove and the two bodies are coupled. The range can extend from a great distance apart (while rotor and stator) are separate, to a distance of 0 inches when they are joined. Where the range of article sizes disclosed in the prior art envelopes the recited range, and there is no showing of criticality of the recited range, such recited range would have been one of ordinary skill in the art. In re Reven, 390 F.2d 997, 156 USPQ 679 (CCPA 1968).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dawson USPN5730447 in view of Murphy USPN5522601, and further in view of Holtgraver USPN5538029, and further in view of Helgeland USPN5975536.

As to claim 8, Dawson discloses:

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- Each of said at least one plurality of magnets 14 is positioned in a cavity on said rotor 3.

Dawson fails to disclose or suggest:

- Each said cavity having an epoxy channel having a bottom which opens into said cavity.
- Each of said epoxy channels further having a top portion, where said top portion is of larger cross-sectional area than said bottom.
- Epoxy positioned in said epoxy channel to hold said at least one magnet in said cavity.

Helgeland discloses magnets 118 positively retained in slots using typical retention methods like epoxy to secure magnets in the grooves to prevent them from sliding out as a result of mutual magnetic repulsion or centrifugal force. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the channels disclosed by Dawson to have epoxy, as taught by Helgeland, to prevent unwanted movement of the magnets.

Holtgraver discloses a cavity 24 having an epoxy channel having a bottom 18 which opens into said cavity, with each of the epoxy channels further having a top portion, where said top portion is of larger cross-sectional area than said bottom (near 14) for improving sealing engagement between two parts (col.1, ln.25-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cavity disclosed by Dawson to have epoxy channels, as taught by Holtgraver, to improve sealing engagement between two parts.

Response to Arguments

Applicant's arguments filed 11/5/02 have been fully considered but they are not persuasive.

As to the combination rejection of Dawson in view of Murphy, applicant argues:

- Murphy does not teach allowing the stator and rotor to move relative to one another for a range of motions when assembled.
- There is no incentive to combine Murphy with Dawson. There is no need nor incentive disclosed in either Dawson or Murphy to combine two types of seals into a single device.

Responses to these listed arguments are given in corresponding order below.

Murphy does teach that the separated stator and rotor can move relative to one another prior to assembly because they are separate parts, and when joined together by force, the stator and rotor interlock with one another (col.5, ln.17-35). It appears that applicant is attempting to claim that the stator and rotor and move relative to each other when already assembled, but this is never claimed.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Murphy discloses several teachings/motivations (other than for simplicity or reduced

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manufacturing costs), as detailed in the rejection of claim 1 above, for using the interlocking structures disclosed. The examiner is not suggesting a combination of two stand-alone seals into a single device, but rather is demonstrating a motivation to combine a single feature of a secondary reference into the existing structure of a primary reference.

Applicant's arguments with respect to claim 2 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments, see pg.9 3rd full paragraph, filed 11/05/02, with respect to claims 6 and 8 have been fully considered and are persuasive. The combination rejection of Dawson in view of Young has been withdrawn. Dawson does not disclose a mechanically coupled stator and rotor.

Response to Amendment

The declaration under 37 CFR 1.132 filed 11/5/02 is insufficient to overcome the rejection of claims 1, 3-5, 7, and 9-11 based upon Dawson USPN5730447 in view of Murphy USPN5522601 as set forth in the last Office action because: although the design goal and function of Dawson's patent is not equivalent to the design goal of Murphy's patent, they are nevertheless relevant art because they share common structure, purpose, and overall function. The intended design goals are moot in regards to patentability.

Furthermore, the fact that "Murphy's invention does not contain a stationary sealing face nor magnets and hence there is no incentive to use Dawson's teachings" is a misrepresentation of the stated rejection because Dawson is the primary reference, and the teachings of Murphy are used rather than vice versa.

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Additionally, the declaration states that the combination rejection “would not be possible.” This is a conjecture and no proof has been given as to why the combination would not be possible, or why the combination of Dawson and Murphy would destroy the Dawson reference. Also, the motivation disclosed of “decreasing manufacture costs and extending the life of an assembly” is only a single motivation disclosed in Murphy, and several more are also given, as detailed in the rejection of claim 1 above.

In conclusion, the Dawson reference can be modified with the interlocking elements disclosed by Murphy, without destroying Dawson’s invention. Murphy also discloses motivations to make the modifications.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Do USPN5093957 discloses an epoxy channel and cavity.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas Y Ho whose telephone number is (703)305-4556. The examiner can normally be reached on M-F 10:00AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, J. J Swann can be reached on (703)306-4115. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9326 for regular communications and (703)872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-1113.

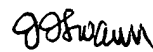
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TYH

April 10, 2003



J. J. SWANN

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